

ABSTRACT

Disclosed is a method for manufacturing deep trench structure comprising the steps of

5 providing a substrate; forming a deep trench in the substrate; forming a nitride layer in the deep trench; filling the deep trench with a first polymer; removing a portion of the nitride layer not covered by the first polymer; refilling the deep trench with another nitride layer so that the sidewall of the deep trench not covered by the first polymer, is covered; removing unnecessary portion of the refilled nitride layer; forming a collar oxide layer in the deep

10 trench; filling the deep trench with a second polymer; removing a portion of the collar oxide layer not covered by the second polymer; and filling the deep trench with a third polymer.